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THE ECONOMIC NECESSITY FOR THE PENNSYLVANIA RAILROAD TUNNEL EXTENSION INTO NEW YORK CITY¹

BY MR. A. J. COUNTY,

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Upon your insistent invitation, it is my purpose to give an introductory address on the subject of "The Pennsylvania Railroad Tunnel Extension into New York City," and the reasons which led to its construction. I am not authorized to speak for the management, but give you my personal views, and if I cause you to more fully appreciate this undertaking, and the foresight, courage and energy of the men who planned it and the men who are constructing it, I believe I will have conformed to the unwritten law of the University as practiced in the Wharton School, "make the boys think."

It is the experience of transportation corporations as truly as of individuals that a selfish and niggardly policy brings ruin, and that permanent development can be secured, and steady and reasonable profits realized, only by exercising forethought, making judicious expenditures for the betterment of public transportation facilities, and providing for future expansion.

The Pennsylvania Railroad Company apparently followed a broad policy in studying the situation in New York City, and in undertaking the responsibility of pioneer in tunneling, for long distance and suburban railroad traffic, the North River, which separates New Jersey from that part of New York City known as the Borough of Manhattan, and the East River, which separates the latter borough from the Borough of Brooklyn and the Borough of Queens on Long Island.

Let us try to discover what must have confronted its management in this study. The lines of the Pennsylvania Railroad Company have terminated on the west bank of the Hudson River since 1871, when it leased the United New Jersey Railroad and Canal

¹An address before the Wharton School Association, University of Pennsylvania, February 13, 1907.

Company, and the same barrier of the North River lies between them and the commercial and financial metropolis of the country, hampering the development and movement of traffic.

Men have, since 1871, slightly bettered their control over nature, but only last month passengers in crossing the Hudson River, from Jersey City to Twenty-third Street, New York, usually a run of about fifteen minutes, spent between fifty and sixty minutes in fog and ice. The delay was, of course, proportionately large to other points, though the ferry boats are of the fastest and most powerful type.

When the journey has been accomplished, the people are landed only on the fringe of New York City, in the Borough of Manhattan, where the cross-town streets are narrow, and the street paralleling the wharves is filled with drays and heavy wagons, seriously impeding the movement of over 300,000 persons every day.

Again, visit Brooklyn Bridge, or any one of the many ferries of the East River on any business day, morning or evening, and see the discomfort and delay of travel experienced by the surging masses to and from the Borough of Manhattan because nature has interposed another barrier called the East River, and it is responsible for this congestion and for the comparatively isolated condition of the residents of Brooklyn, to say nothing of those residing in other parts of Long Island.

In view of the long deference of mankind to these great rivers, it may well be asked, is this traffic growing, or is its growth so slow, or unprofitable, as to warrant no other method of transportation being used than ferries, and will any progressive railroad company with lines terminating in New Jersey, be content to utilize practically the same facilities for entering and leaving New York City as existed over sixty years ago? In answer to the first question, the traffic growth is marvelous, as a recital of the facts will evidence; the action of The Pennsylvania Railroad Company is the best answer to the second query.

An examination of the situation shows that in the Borough of Manhattan, New York City, the density of population is about eight times as great as the average density of the six other largest cities of the country. The side barriers of the East and North Rivers, and the difficulty of movement between points in such a small and crowded area, may, however, be summed up in the experience that

until within the past year it took the best part of an hour to arrive at a residential section of the city, and for out-of-town places an hour is not an unusual time from the place of business to the place of residence, and generally under the most crowded conditions. Because of these barriers, and the unfavorable climatic conditions of at least six months in the year, the Borough of Manhattan, although crowded and expensive, is considered the most desirable place for residence, while the suburban section within the limits of the City of Greater New York, in the Boroughs of Brooklyn and Queens jointly, have not even the same density of population found in other cities. These unfavorable conditions have not, and doubtless will not, stop its growth, for the population included within a circle of nineteen miles inland radius from the City Hall, Manhattan, was, in 1890, three million three hundred and twenty-six thousand nine hundred and ninety-eight; in 1900, four million six hundred and twelve thousand one hundred and fifty-three; in 1905, five million four hundred and four thousand six hundred and thirty-eight. The increase in ten years was thirty-eight per cent.

In 1913 the population of this metropolitan territory will, at this rate, be at least six millions, and in 1920 will be well over eight millions, without considering the many schemes of improved transportation now under way.

Let me here illustrate the possibility for growth in the Boroughs of Brooklyn and Queens, compared with the Borough of Manhattan, and with the following cities:

	Population.	Area, Square Miles.	Density per Square Mile.
Manhattan Borough	2,174,335	21.93	99,148
Brooklyn Borough	1,404,569	77.62	18,097
Queens Borough	209,686	129.50	1,618
Boston	607,340	42.66	14,237
Chicago	2,050,000	190.5	10,761
St. Louis	750,000	61.5	12,195
Philadelphia	1,500,000	129.5	11,582
Greater Pittsburgh	450,000	37.25	12,080
Baltimore	560,000	31.5	17,777
London, England	4,542,725	118.00	38,498

It is impossible to judge the growth of a city by the increase of its transportation facilities alone. It is a well known fact that in the City of New York the various transportation companies

operating in and near that city have been unable to increase their facilities for travel in proportion to the number of passengers or tonnage carried, but there has been a notable response to every additional avenue of transportation and commerce.

In 1897, four hundred and ninety million one hundred and fifty-two thousand seven hundred and ninety passengers were carried on the elevated and surface lines in the Borough of Manhattan; in 1906, the elevated, subway and surface lines carried one billion seven million one hundred and sixty-one thousand nine hundred and thirty-three passengers, a gain of five hundred and seventeen million nine thousand one hundred and forty-three, or more than the entire number of passengers carried in the year 1897. A similar enormous increase in travel has occurred across the East River. About fifty years ago the first railroad was built in the southwestern part of Brooklyn. This village community was then about two hundred years old and had a population of between twenty-one and twenty-five thousand. Now there is a city of seventy-seven square miles, with a population of one million four hundred thousand, forming a borough of Greater New York City.

Between that borough and the Borough of Manhattan the traffic crossing the East River in 1897 numbered one hundred and forty-three millions. Of these persons about fifty millions, excluding pedestrians, were, in that year, carried over the bridge.

This traffic develops with great rapidity, for, in 1906, a close estimate shows that 295,000,000 persons were carried across the East River. The ferries conveyed about 100,000,000, and the railways on the Brooklyn and Williamsburg Bridges carried 195,000,000, and, although pedestrians tend to make the congestion greater, they are not included in the foregoing figures.

With abundance of room for expansion, and the provision of adequate transportation facilities, the Borough of Brooklyn must become the competitor of the Borough of Manhattan in population and wealth.

Leaving the subject of intra-city travel to consider that carried by the railroads across New York harbor, we find that the railroads on the west bank of the North River, in 1896, carried nearly fifty-nine million people; in 1890, over seventy-two million; in 1896, ninety-four million, and in 1906, we may safely estimate the figure to be one hundred and forty million people.

This is the passenger side only, but how are the necessities of these people provided for, and how do the commodities from the southern and western states reach them? The freight traffic carried on the lines terminating in New Jersey is, of course, laid on the bosom of Mother Nature and floated across New York harbor on the East and North Rivers, and I would say that at least eighty to one hundred million tons from the railroads are so carried every year.

Such conditions indicate that any additional transportation route must be a distinct advantage to the traveling public, and to the residents of New York City and Long Island, especially if it removed the inconvenience and delay of transfers across the East or North River, and must have had great weight in prompting the Pennsylvania Railroad Company to build the New York extension.

It must be remembered that the problem of the Pennsylvania Railroad in conveying persons and property directly into New York City is not merely a local necessity, but is largely due to the fact that its road is a great avenue of travel to and from the west and the south and that city, which is the metropolis of the country for business and pleasure. This responsibility is a gradual growth since its lease of the United New Jersey Railroad and Canal Company in 1871, when the number of passengers carried was slightly over seven million, and the tons of freight slightly over two million, whereas, during the past year, there were carried on the United Railroads of New Jersey Division twenty-three million passengers and thirty-one million tons of freight.

In this period ferry boats and ferry facilities have been enlarged, but not at the same rate as traffic, except possibly the cost of the boats and the rents of the municipal piers.

From authentic figures published in 1896, the Pennsylvania Railroad carried nearly twenty-five per cent of the passenger traffic over the North River, and out of the one hundred and forty million passengers now carried, it is safe to say that the Pennsylvania Railroad must move yearly in its ferry boats about thirty-three million people in and out of New York City, in addition to vehicles and commodities. The facilities must be so arranged as to conveniently transport them in comfort and good order during the rush hours, as well as the hours when traffic is lighter, and in the winter months, when the conditions of traffic are such as to cause considerable

delay, and the taking of extraordinary measures to insure the safety of passengers.

Across the river from the terminal at Jersey City stood the great metropolis with but one moderate sized railroad station in its center, and its citizens, fully conscious of the isolation of the city, were anxious to remedy it.

The Pennsylvania Railroad Company, in seeking improved methods of transportation to and from New York City, recognized the fact that, trusting solely to ferry facilities, it would fall short of what it believed the future would require for the greater dispatch, comfort and convenience of not thirty-three million people carried to and from the metropolis each year, but what, inside of twenty years, will mean fifty million.

The company when considering its tunnel scheme also had in mind the isolation of Long Island, and the results to be obtained by bringing it into touch by rail with the rest of the world, and accordingly acquired a controlling interest in the Long Island Railroad Company by the purchase of a majority of its capital stock. This should give it the largest part of the long distance traffic, both passenger and freight, from that island. As an estimate of what that may be, let me repeat that Brooklyn alone has a population of about one million four hundred thousand, and will, of course, grow enormously when the island is brought into direct contact by tunnel and improved freight routes with the City of New York and the west and south.

The traffic on the United Railroads of New Jersey Division of the Pennsylvania Railroad in thirty-four years had a growth of 203 per cent in passengers and 1122 per cent in tonnage. I will state this more concretely by saying that since 1895 the tonnage mileage on the main line of the United Railroads of New Jersey Division increased 104 per cent, and the passenger mileage increased 79 per cent. Its traffic density per mile of road is now 15,715,246 ton miles, and 5,210,804 passenger miles.

The passenger traffic on the Long Island Railroad also grew, within this ten-year period, over 33 1-3 per cent, and a like increase has resulted in its tonnage. The total tonnage of the United Railroads of New Jersey Division and the Long Island Railroad for the past year was thirty-three million seven hundred and twenty-three thousand sixty-one tons, and it may be estimated that the New

York and New England tonnage to be handled across New York harbor for the Pennsylvania Railroad lines is in the neighborhood of sixteen million tons per annum.

The situation, therefore, that would confront the company in the next two decades was one requiring instant attention, if it were to be squarely met on a remunerative basis. The interests of the company, as well as the demands of commerce, required liberal provision on the Long Island and New Jersey shores for the freight traffic of the entire metropolitan district, and the carriage of through freight to and from New England states, as well as the passenger extension into New York City and the establishment of a centrally located passenger station, through which inconvenience and delays would be avoided.

Various methods of accomplishing this result had at different times been considered, and at one time centered on a bridge for passenger traffic. On account of the great cost of a bridge, and because all the companies whose railroad lines terminated on the west bank of the North River would not unite in the undertaking, the bridge was eliminated from consideration for the time being. The alternative was the construction of a tunnel line; but the difficulties incident to the operation by steam of a tunnel at the depth and with the gradients required by the topographical conditions, seemed to make a tunnel almost, if not quite, impracticable.

Meanwhile, however, the successful operation of steam railroad trains in tunnels in other parts of the world by electric power indicated a satisfactory solution of the problem for suburban traffic.

I would like to impress upon your minds that this undertaking is not an experiment, or a work hastily undertaken, but one which was chosen as the best solution of the company's difficulties. It is the result of many years of deliberate thought and investigation of railroad terminals and tunnels in various parts of the world, by engineers of experience and men of executive training. Its practical features have been more than confirmed by the amount of work so far completed, and to which I will make further reference.

For many years the company realized that the project was not one that could be financed singly, but necessity eventually became so stern, and the growth of the company so great, that the improvements in engineering methods and plans for tunnels were finally regarded as absolutely certain to produce satisfactory results, and

such as to justify the company proceeding alone in its plans for the development of its own system and the movement of its traffic.

The tunnel extension has a great advantage over the proposed North River bridge, in that it provides a direct connection between the lines west of the Hudson River and the Long Island Railroad. It also connects with the proposed New York Connecting Railroad, and through it with the New York, New Haven and Hartford Railroad, furnishing an all-rail route between the Western, Southern and New England States.

To carry this tunnel scheme into effect required the formation of two companies, one in New Jersey and the other in New York, which are known as the Pennsylvania, New Jersey and New York Railroad Company and the Pennsylvania, New York and Long Island Railroad Company, respectively.

The first named company was incorporated on February 13, 1902, in the State of New Jersey, and is empowered to build a railroad from a point of connection with the tracks of the United New Jersey Railroad and Canal Company, near Newark, thence to and under Weehawken and the Hudson River to a point on the boundary line between the States of New Jersey and New York, connecting there with the railroad of the following company, organized under the laws of the State of New York.

The Pennsylvania, New York and Long Island Railroad Company was incorporated April 21, 1902, under the laws of the State of New York, and it is authorized to construct and operate a tunnel railroad in the City of New York, to be connected with any railroad within the State of New York or any adjoining state, and thereby form a continuous line for the carriage of passengers and property between points within and points without the said city. The western terminus thereof is under the waters of the Hudson River on the boundary line between the States of New York and New Jersey, at points of connection with the Pennsylvania, New Jersey and New York Railroad, opposite West Thirty-first and West Thirty-second Streets, New York City. The eastern terminus of said railroad is at points of connection with the Long Island Railroad, in the Borough of Queens in the City of New York.

Before the New York company could begin constructing its railroad, it was necessary to obtain a certificate from the State Board of Railroad Commissioners that such extension was a public

convenience and necessity, which certificate was granted November 24, 1902.

It was also necessary to obtain a franchise from the City of New York, which was granted by the Board of Rapid Transit Railroad Commissioners on October 9, 1902, accepted by the railroad company on November 5th of the same year, and approved by the Board of Aldermen on December 16, 1902.

The consents required from the other municipal departments and bodies of the city were obtained later.

The conditions under which the franchise was granted were:

That the tunnel company should maintain and operate the railroad in perpetuity, begin the construction of its road within three months after obtaining the needful municipal and other consents, and complete its construction within five years thereafter.

That the tunnel company should pay the city a compensation per lineal foot for the tunnel tracks, and a further compensation for the use, for station purposes, of the underground portions of the streets, other than Thirty-second, which was vacated and sold to the company, and which it so occupies. Such compensation is fixed for the first period of twenty-five years, and is subject to readjustment at the end of each like period. For the first period of twenty-five years it is so adjusted that the tunnel company pays double the amount per annum for the latter fifteen years thereof that it does for the first ten, and on this basis the average for the entire period will be about sixty-four thousand dollars per annum.

Pursuant to the terms of this franchise, the company is undertaking the construction of a line, starting from points under the Hudson River, on the line between the States of New York and New Jersey, and running eastwardly through and under Manhattan Borough, New York City, and under the East River and Long Island City, rising to the surface in its Sunnyside Yard terminus in that city. The terminal station between Thirty-first and Thirty-third Streets, in New York, and Seventh and Ninth Avenues, and extending westwardly to Sixth Avenue, and additional tracks under Thirty-first and Thirty-third Streets, necessary for the operation of the railway and station, are also being constructed.

The importance of the project, and the engineering questions to be solved in its construction, caused the company to create a Board of Engineers, eminent in their profession, to supervise the

preparation of all plans and have general direction of the undertaking, reporting to the executives. The work was then divided into three construction sections, the North River Division, the East River Division and the Meadows Division, and consists of about 13.10 miles of new railroad, the part in the open embracing about 7.66 miles and in tunnels about 5.5 miles.

The principal physical features of the work are elevated tracks constructed in the open from a connection with the New York Division, east of Newark, across the Meadows to the portals of the tunnels at Bergen Hill, and a double track tunnel under Bergen Hill, West Hoboken, Weehawken, becoming two single track iron tube tunnels as they pass under the Hudson River into New York City to a point near Tenth Avenue. When the tracks emerge from the tunnels at that point they begin to increase, and at the terminal station, lying between Thirty-first and Thirty-third Streets and Seventh and Eighth Avenues, will number twenty-one.

At the terminal station site there are about twenty-eight acres enclosed by retaining walls, making a total length of such walls of seventy-eight hundred feet and requiring the excavation of two million five hundred thousand cubic yards. There will be about forty-five thousand tons of steel required for the terminal station, and such station will have ultimately a maximum capacity for about fourteen hundred and fifty trains per day, accommodating about five hundred thousand passengers daily. Within the station area there will be about sixteen miles of track.

Easterly from Seventh Avenue the terminal tracks finally resolve into four tracks in two twin tunnels extending under Thirty-second and Thirty-third Streets to the East River shafts in Manhattan. From the latter point four single track iron tube tunnels extend under the East River and into Long Island, and the lines reach the open surface at the entrance to the Sunnyside train yard, where connection will be made with the Long Island Railroad, and later with the New York Connecting Railroad, to handle traffic to and from New England, as well as Long Island.

The company has been negotiating for the past year for necessary changes in the routes of streets in the Sunnyside Yard District, on Long Island, and such will doubtless be made, so that the construction of the large terminal yard may begin in this undeveloped

region. It will, with its approach tracks, cover about 389 acres, and have a capacity for about 1,500 cars.

The plans of the company, since their first inception, have been materially broadened, as the general recital of the physical features of the extension indicates, and the total cost, including real estate, will probably be not less than \$90,000,000.

It will be well to bear in mind that the tunnel project is on a much larger scale than the existing facilities, and indicates further thought for the care and dispatch of traffic. Broadly speaking, it is after all only the result of the enormous growth of the traffic of the Pennsylvania Railroad for over thirty years, demanding some such provision as is now being made for its still greater expansion. Although \$90,000,000 seems a large sum, it must be considered that six years will have elapsed between the first and the last expenditures for the work. Therefore, it can readily be seen that if it had been deferred for another decade its cost would have been almost prohibitive, but now it is within the bounds of a reasonable outlay for the results to be accomplished. As proof of this, consider the statement publicly made by a vice-president of the New York Central and Hudson River Railroad Company, that his company required \$70,000,000 for the improvement and reconstruction of its station and the electrification of its tracks for suburban traffic. It must be remembered that the New York Central and Hudson River Railroad Company is compelled to carry on its large work of improvement within the territory where its tracks are at present located, involving great responsibility because the traffic must continue to move. whereas, the Pennsylvania Railroad Company, for its \$90,000,000, makes a considerable addition to its system, has a terminal in the central part of New York City, with connection to Long Island and New England, and has a clear field to carry on its work.

By the time the real estate and rights of way had been acquired, the management had its plans and specifications prepared by the board of engineers. Contracts were then advertised, the awards made to the lowest bidder, and the active work of construction was undertaken.

The work of investigation and construction has been steadily pursued, until to-day it displays the following evidence:

The masonry work of the several bridges on the line from its connection with the New York Division near Harrison to the portals

of the tunnels at Bergen Hill is making rapid progress towards completion.

The tunnels under Bergen Hill are progressing satisfactorily, and the excavation has been made and iron tubes laid for the two tunnels under the North River, and the concrete lining is now being placed. The excavation of the east shore end of these tunnels is now within two hundred feet of the terminal site.

The excavation at the terminal site of the estimated two million five hundred thousand yards of material, between Seventh and Eighth Avenues and Thirty-first and Thirty-third Streets, is almost completed, and a large part of the foundations for the building and sub-surface work in hand.

Eastward from the terminal site to the Manhattan shafts, considerably more than one-half of the necessary excavation has been completed, and rapid progress is now being made in the excavation and construction of the four tubes under the East River to the Long Island shafts.

About seventy-five per cent of the tunnels east of that shaft has been iron lined, while the excavation is nearing completion. I can better express it by saying that, with the exception of a short distance in and near the terminal, it is possible to walk underground from Bergen Hill, N. J., to and under the East River.

The tunnel extension cannot be considered complete without the following extensive improvements for the development of Long Island and New England traffic, which are being undertaken in connection therewith:

1. The establishment of the eastern terminus to be called "Sunnyside Yard," between Thompson and Jackson Avenues, in Queens Borough, which I have before mentioned. This yard is necessary, not only for the efficient operation of the tunnel extension in Manhattan, but also for the proper care of the additional traffic which will result from the said extension, and its interchange with the Long Island Railroad and New York, New Haven and Hartford lines.

2. The elimination of grade crossing and the electrification of the Long Island Railroad within the city limits. These changes improve the lines from Flatbush Avenue station out to Brooklyn Borough line, and from Long Island City station to Jamaica, and from that station by the Manhattan Beach line through East New

York around to the Bay Ridge Terminal, on the southern shore of Long Island.

3. The Pennsylvania freight terminal yard and piers at Greenville, N. J., connecting by the proposed straight and relatively short ferry across the upper bay with the Bay Ridge terminal of the Long Island Railroad.

4. The enlargement of the facilities for handling freight in the Boroughs of Brooklyn and Queens, by the establishment of many yards, which are necessitated by putting these boroughs in touch with the rest of the country by rail and for their local requirements.

5. The completion of what is known as the "Atlantic Avenue Improvement," in Brooklyn, requires the removal of steam railroad tracks from the surface of that avenue, at the joint expense of the railroad company and the city, and a large and very expensive improvement, at the sole cost of the railroad company, of the passenger and freight stations at Flatbush Avenue. This point will in the future probably be the most important distribution point for passengers in Brooklyn, the improved station and terminal being designed to occupy sixty-one lots. When the New York Connecting Railroad is finished, residents of Brooklyn and Queens will travel by that route to New England and the north and east, and by way of the Pennsylvania terminal in New York City to the west and south.

6. The New York Connecting Railroad is to be twelve miles long, to run through a part of Queens Borough, then by a bridge across the East River at Ward's and Randall's Islands, and will be the connecting link for passenger and freight traffic to the territory mentioned in the previous paragraph. It will abolish the largest part of the floatage in New York harbor now carried on by the Pennsylvania Railroad Company by delivering and receiving freight at Bay Ridge, L. I., and will carry all the passenger traffic through the Pennsylvania Railroad tunnels.

7. Construction of the Glendale cut-off between the main line, Montauk Division and Rockaway Beach Division of the Long Island Railroad. This is necessary for the improved passenger service and to give direct connection with the Pennsylvania tunnels through New York City.

8. New piers and docks on Newtown Creek at its confluence

with the East River for traffic to and from the Long Island Railroad.

9. Electrification of the United Railroads of New Jersey Division from Newark into Jersey City, for local passenger traffic.

In all of these plans the residents of the City of Greater New York and its public bodies are materially interested, and it is largely due to this public sentiment that the company has been successful in having them approved.

The accompanying map will enable you to clearly comprehend the vast improvements contemplated and their tremendous possibilities to the Pennsylvania Railroad system, the City of Greater New York, and, in fact, the entire country.

Summing up, the Pennsylvania Railroad Company's New York Tunnel Extension is a line of railroad from Newark, N. J., to Port Morris, N. Y., through the Borough of Manhattan and Queens, having for its principal purposes:

The construction of a large passenger terminal centrally located in the City of New York;

Making the Long Island Railroad an integral part of the system;

Affording the Boroughs of Brooklyn, Queens and the balance of Long Island abundant opportunity for development; and

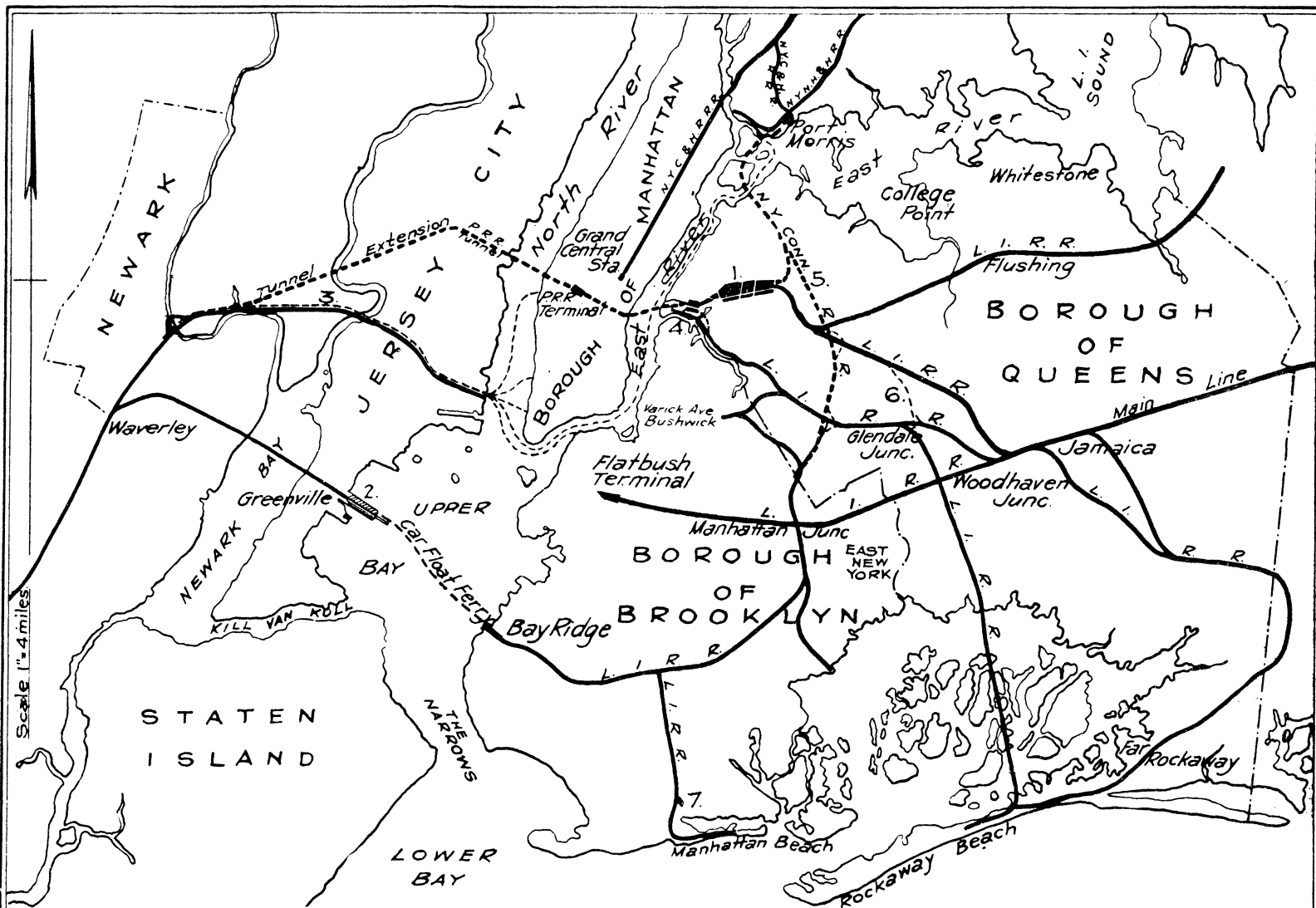
Binding the New England States with those of the west and south by means of the New York Connecting Railroad.

The reasons for its construction apparently were:

First—To provide for the future by enlarging the present facilities for freight and passenger traffic, because of the continuous growth in passenger and freight traffic, and to accomplish it before the cost became almost prohibitive, or the task impossible, because of the construction of other underground transportation lines.

Second—To run its passenger trains into a central location in the City of New York, instead of a station on the west bank of the Hudson River.

Third—To open to the people in the thickly populated Borough of Manhattan the residential sections of Long Island, and to offer to Newark and other populous towns in New Jersey direct and quick access to the resorts on Long Island beaches.



⇒ PENNSYLVANIA R.R. CO'S NEW YORK TUNNEL EXTENSION AND CONNECTIONS. ⇐

1. Sunnyside Yard.
2. Greenville Freight Terminal.
3. P.R.R. Electrified Line, Newark to Jersey City.
4. Newtown Creek Development - Bulkheads, piers, tracks.
5. New York Connecting Railroad.
6. Glendale cut-off between Main Line and Rockaway and Montauk Divisions.
7. Terminal, Sheepshead Bay,

Fourth—To provide a highway for all-rail traffic to New England.

Fifth—To give the Boroughs of Brooklyn and Queens, with their population of over 1,500,000, direct railroad connection to and from the New England, Southern and Western States, and to supply freight facilities with similar connections in these boroughs, thereby properly serving the entire area of Greater New York through freight stations, suitably located to develop its commercial interests.

Sixth—To provide additional freight facilities and shorten the water transportation trip for the New England traffic across New York harbor from about twelve miles to three and four-tenths miles.

Seventh—To make its Long Island Railroad investment remunerative within a comparatively short period.

Eighth—To obtain a proper share of the golden future by judicious expenditures in a territory having abundant promise, whether viewed from the growth of traffic in the past or the outlook for the future.